CITY OF KENT

Jim White, Mayor

April 25, 1996

Mr. David South
Site Manger
Washington Department of Ecology
3190 160th Avenue S.E.
Bellevue, Washington 98998-5452

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DEPT. OF ECOLOGY

RE: Landsburg Mine Site RI/FS Comments

Dear Mr. South:

The City of Kent appreciates the opportunity to comment on the Remedial Investigation and Feasibility Study for the Landsburg Mine Site. In conjunction with our consultants, we have reviewed the documents in some depth and have a number of concerns and comments. As you may recall, the City responded with input to the RI/FS Workplan in July of 1993. At that time we expressed concern regarding the potential for contaminants to escape the Landsburg Mine trench and seam. Several questions and comments on this front remain and are not resolved by the RI/FS. These issues are further addressed in our comments, which are provided in the following sections of this letter.

Significance of the Landsburg Mine Hazardous Waste Site to the City of Kent.

As you know this remediation project is of great concern to the City as a result of its proximity to the Clark Springs wellfield. The City of Kent's Clark Springs wells produce 4 to 6 million gallons of water per day, about half the total municipal supply for the City. Approximately 40,000 people rely on this safe source of drinking water which the City has utilized since the early 1940s. These wells have an enormous present and future economic value to the City.

The Clark Springs are located about 1/2 mile downgradient of the south portal of the Landsburg Mine (see Figure 1). The proximity of the City of Kent's water supply wells to the mine necessitates a high level of caution in evaluating potential hazards posed by contaminants within the mine. The recently completed Wellhead Protection Plan of the City of Kent identifies the Capture Zone for each of the City's water supply sources. We have attached a copy for your use and information in moving ahead at the Landsburg site. Unfortunately, a major portion of the Landsburg mine seam falls within the 1 year Capture Zone, with the south portal several hundred feet within it, approximately 2000 feet from the wellfield. The Landsburg Mine site is ranked as the top priority risk for the Clark Springs watershed. a

Source Characterization.

The RI/FS reports (page 3-3) that the mine received about 4,500 drums of waste and 200,000 gallons of oily waste water and sludge. Chlorinated solvents (methylene chloride, TCA, and TCE), petroleum hydrocarbons, PCB's, and cyanide are among the toxic contaminants found in residual drums and sludge at the site. The actual waste characteristics and/or content of the drums were not well documented. If there is additional information in the possession of any PLPs in this regard it should be provided. It is known what the sources were for some of the drums, and it is likely that some discussion could be presented to document the range of potential contaminants. b

It is documented in the RI/FS that samples of material taken from the drums removed from the trench and from soils sampled during the Ecology and Environment Investigation would probably be designated as Dangerous Waste (DW) or Extremely Hazardous Waste (EHW) under state and federal hazardous waste laws. This in turn implies that significant volumes of material likely EHW or DW, will remain in the trench under the proposed remediation. This material could potentially have generated a much larger volume of contaminated soils than the volume of the originally dumped wastes. No effort has been documented to characterize the full nature or extent of this material in the RI/FS. c

It is further postulated in the RI/FS that many of the drums could have been only partly full, but there is no documentation of this in a manner which allows any reliable estimate to be made regarding the volume of the waste material on site, past or present. It could also be postulated that many of the drums were full. If each drum contained on the average 45 gallons of liquid wastes, this would amount to a total of about 400,000 gallons of liquid and semi-liquid waste disposed to the mine. It is unlikely that all the wastes dumped there are accounted for, and as a result we believe that there could well be additional quantities of wastes dumped for which no record has been found. d

Based on information in the RI/FS (page 3-23), approximately 780,000 cubic yards of raw coal was removed from the mine. The mine was dewatered by pumping during its operation. The volume of water and earth materials removed in mining corresponds generally to the amount of void space created underground by the mining process (the amount of caving or "infall" from above is roughly balanced by the voids created by dewatering of the unmined material and adjacent sidewalls). Probably 85 to 90 percent of this void space (based on Figure 3-9), or about 700,000 cubic yards, is now below the water table, the abandoned mine having been mostly filled by inflows of surface water and ground water. The unknown distribution of contaminants throughout the mine is a question of concern as discussed under migration pathways below. e

The volume of liquid wastes (400,000 gallons) estimated above, based on the information in the RI/FS, represents a potential maximum concentration of 2,800 parts per million in the water now occupying the total estimated void space (700,000 cubic yards). Given that the threshold of concern for some of the toxic substances in water is measured in a few parts per billion, there is justifiable apprehension that potential future discharges from the mine, as discussed in later sections of this comment letter, potentially threaten adjacent water resources, such as the Clark Springs watershed. f

In addition, during our site visit on the 16th of April, we were made aware of a potentially contaminated area in the immediate vicinity of Mine Portal 3, where drums are reported to have been disposed. Mr. Greg Wingard reported he had personally observed drums at this location. He also reported solvent like odors, prior to the earth work which has apparently taken place there since. One drum was observed in the brush during our visit.

According to Golder staff, this location is not currently on any of the site lists which were relied upon in this RI/FS, and therefore it was not evaluated. However, the City of Kent believes that this site needs to be evaluated and remedied if necessary in conjunction with this remediation effort, based on the site location, the potential for contaminants, the spatial relationship to the Landsburg mine and the Clark Springs wells (see Figure 1), and the observed elevated organic analysis results at two private wells located down gradient (samples at PW-9 and PW-10). g

Fate and Transport of the Wastes.

To date, contaminants have not been detected consistently or in significant concentrations in either monitoring wells or in surface water discharge from the mine. The RI/FS (page 6-16) presents four possible factors explaining of the non-detection of contaminants. While each of these factors may have contributed to attenuation of the wastes, we believe they are unlikely to have resulted in complete absence, removal or destruction of all the toxic waste constituents. No data have been provided in the RI/FS to support reliance on any of these processes as predominant mechanisms at this site. h

There are two other important possibilities listed below, which have been omitted but must also be considered:

- The monitoring wells are not located in the current ground water contaminant flow paths, and/or i

- The contaminants have not yet migrated to the mine portal discharge points but will eventually appear at those or other locations.

The second of these possibilities is of particular concern in the context of the discussion under migration pathways below. The four possible scenarios presented on page 6-16 of the RI/FS, are paraphrased below with discussion on each:

1. *Wastes disposed of are no longer present due to consumption by fires or being already discharged.* As reported in the RI/FS (section 3) the known major fires occurred in 1972, but the dumping took place over a period of time from 1969 to 1983, with observed dumping of liquid wastes in the trench as recently as 1978. It is not known what proportion of the wastes were located in the areas where the fires occurred, and no related estimates are provided. We do not believe that the hypothesis that a major portion of the wastes discharged have already been destroyed by this mechanism can be considered a reliable conclusion, based on the information presented in the RI/FS. j

2. *Residual coal in the mine has immobilized the wastes in place.* While it is likely that to some extent this is a mechanism in effect at the mine, no quantitative analysis or evaluation is presented in the RI/FS. The mine trench will not operate in the same manner as a filtration k

process where rigorous controls exist in such aspects as the overall process, filter media and filtration rates. It is not reasonable to rely on a possible but unsubstantiated and unquantified mechanism such as this in decision making on this site.

3. *Some of the drums were either empty or filled with innocuous or inert substances, and much of the liquid wastes dumped were low in concentrations of contaminants.* As discussed above, no discussion is presented on the contents of the drums in any quantitative manner, except statements that the contents sampled may be DW or EHW under state and federal hazardous waste regulations. The information may be available but not presented. In any event, based on the information presented to date, this is a very speculative point to rely on in light of the potential DW and EHW classifications for both wastes and contaminated soils left on site. l

4. *Wastes are contained in drums and not yet released.* This is a possibility, however we would agree with the expectation expressed in the RI/FS that most of the drum contents have already been released. m

It is also of concern that two groundwater analyses showed elevated organics at private wells PW-9 and PW-10, located downgradient from the south portal and the potential waste disposal area identified during our site visit. n

Migration Pathways.

This area of discussion is complex and is therefore presented in the following subcategories: Overview, Migration Potential Within The Mine Seam, and Lateral Flow Potential.

Overview.

There is no comprehensive discussion presented of the groundwater flow system as a whole for the site. As a result, pieces of relevant flow information are fragmented throughout the document, with the potential for conclusions to be made inaccurately or prematurely. In order to properly evaluate the migration pathways, we believe the flow system needs to be viewed more comprehensively incorporating all of the observations in one section of the RI/FS. o The limited water balance discussion performed in the RI/FS does not support the conclusion stated on page 6-9 that, "The majority of the flow from the mine, and in particular for that portion of the trench utilized for waste disposal is therefore to the north." A more comprehensive water balance for the site is needed. p

In fact, as discussed below there is a significant amount of information in the RI which implies discharge is to the south. Golder staff have stated verbally that their best estimate is that flow is probably split evenly in both directions; however, even this conclusion is not supported based on information reported in the RI/FS. In fact the observations reported in the RI/FS document more of the mine drainage leaves to the south. This in turn leads us to disagree with the disproportionate emphasis for continued monitoring on the north end of the mine. We believe that more emphasis, or at the very least equal emphasis, is appropriate to the south, based on the proximity of the City of Kent's water supply and the observed flows leaving the mine. q

We do not believe it is possible with existing data to comprehensively model the flow system within the mine. We agree in principal with the black box concept described in the RI/FS workplan and the empirical approach of monitoring what comes out of the black box. r

As discussed below, examining the limited data empirically does not lead us to the conclusion that the majority of the groundwater flow and potential contaminants are leaving to the north. Moreover, we believe the major uncertainties remaining require more stringent monitoring and remedial measures than have been proposed. s

Migration Potential Within The Mine Seam.

Ground water flow within the mined out coal seam presents some unusual factors to consider. For a highly permeable rubble zone, which is generally symmetrical lengthwise, it is anomalous that apparent ground water elevations are so much higher at the south end than the north. t Also of concern regarding this site are the observations that:

1. Water clearly flows south from the north portal at least seasonally, as indicated by the appearance of the Baker tank releases near the north portal at well LMW-1 (page 3-35 and Figure B-12), relative to the observations made at the north portal. A much greater response was observed at LMW-1, thus documenting flow at that point to the south. u

2. Perennial and significant surface discharge occurs at the south portal, while no measurable discharge has been recorded at the north end. This south portal discharge appears to be of the same approximate magnitude as the average annual recharge to the coal seam flow system, based on the estimates reported in the RI/FS of average annual recharge to the trench of 10 to 20 gpm (page 3-36), and the hydrograph of measured flow from the south portal (figure B-9) which shows measured annual discharge averaging 15 to 20 gpm. v

3. There is no documentation of the location of the north-south ground water flow divide or divides within the mined out seam. Its location without data is speculative. The possibilities of a) multiple vertical flow cells within the seam, or b) lateral subsurface discharges cannot be discounted. The unknown geometry of the Rogers seam flow system significantly constrains analysis and meaningful conclusions regarding the migration of contaminants. The divide could be located almost anywhere within the trench. w

The waste was disposed on the ground surface at locations which were and still are above the water table. Wastes were disposed in the surface subsidence trench for several years when mining of the deepest level was still in progress and the workings were fully dewatered. Although wastes were reported to be dumped mainly in the northern section of the trench, liquid wastes would have migrated downward and then southward along the lowest workings of the mine. In fact, miners smelled fumes and noted oil in the fourth level sump, located at the mine's deepest point at the south end of the mine (see Figure 3-9), after tankers had discharged material at the surface (page A-7). x

The RI/FS (page 3-36) estimates an average annual inflow rate to the mined out Rogers seam of 10 to 20 gpm. The south portal discharge averaged about 15 and 21 gpm for the periods 12/93-12/94 and 5/94-5/95, respectively (Figure B-9). Some subsurface discharge (or possibly storage) is likely to account for the difference between this inflow and south portal discharge. Using 20 gpm net inflow, the time required to fill the 700,000 cubic yards of artificially created void space would be about 13 years, following mine closure in 1975. Liquid wastes disposed or released between 1969 and mine closure would generally have migrated toward the lowest point in the mine, over 600 feet below ground surface and near the south end of the workings. Contaminants released before and after 1975 would have mostly migrated to depths below the current ground water levels. y

Given the large volume available for dispersal of wastes, most non-aqueous liquids remaining today are probably immobilized at residual saturation levels. These materials could, however, provide an ongoing source for dissolved contaminants. Within the coal seam, contaminants residing at depths considerably below the current water table within the old workings can only be brought to portal discharge points by vertical flow cells, and may thus be considerably delayed in reaching the portals. Given the great heterogeneity of the collapsed mine workings, it is possible that different sections of the mine behave as discrete but interconnecting aquifer zones or flow cells. Portal discharge probably represents primarily shallower, faster flow. z

No surface discharge is observed at the North portal. Subsurface discharge via the coal seam at the north end of the mine can be estimated at about 1/2 gpm, based on the hydraulic conductivity reported for coal in LMW-3 and the hydraulic gradient between portal No. 2 and wells LMW-2/4.

aa

At the south portal, surface flows approximating the estimated recharge estimated for the seam (reported on page 3-36) have been observed, and a component of groundwater discharge as discussed above for the north portal area, should also be expected to occur there.

These observations, as reported in the RI/FS do not lead to the conclusion that most of the discharge or contaminant transport is occurring to the north. They actually imply the opposite conclusion, that most of the flow and potential contaminant transport is occurring to the south. bb

Lateral Flow Potential.

According to the RI/FS, ground water migrates predominantly along the mined out coal seam because of much higher hydraulic conductivities in the open mine workings and collapsed rubble, as compared to the intact bedrock sidewalls. This is undoubtedly true; however, significant (relative to this flow system) lateral migration is also possible.

Very little information is available in the RI/FS to evaluate ground water flow in the intact sedimentary bedrock. The little information presented suggests such flow can be significant, especially in the coal seams or in occasional fracture zones. For example, most private wells reported in the RI/FS to be completed in bedrock have low yields, but a few produce in the tens of gallons per minute (gpm). The higher yields correspond to zones of higher hydraulic conductivity such as a shear or fracture zone. Such a zone could represent a conduit for ground water flow, with potential impact regarding this remediation project. cc

The hydraulic conductivity reported in the RI/FS for intact sandstone in monitoring well LMW-1 is $1x10^{-4}$ cm/sec (Figure F-11). If flow across the bedding planes is assumed to be only 1/100th as great ($1x10^{-6}$ cm/sec), if this permeability existed over the 4000-foot length of the coal seam, and if the hydraulic gradient between the Rogers and Landsburg seams remained constant, as it is observed between wells LMW-1 and LMW-7, easterly lateral flow out of the Rogers seam would be 5 gpm or greater, a significant fraction of the total recharge. Fracture zones with higher hydraulic conductivity could form more defined flow paths.

Applicable Relevant and Appropriate Requirements (ARAR's).

With respect to the ARAR's discussion we have two main areas of concern. The first is regarding the Wellhead Protection Requirements under the Federal Safe Drinking Water Act. This program is implemented through the rules of the Washington State Department of Health regarding Group A and Group B Water Systems under WAC 246-290 and 291. These rules should be included as ARAR's; they require planning for protection of groundwater supplies including springs. WDOE is a primary source of assistance necessary in providing source protection under this program.

The City of Kent has recently completed its Wellhead Protection Plan, and a copy is enclosed with this letter. Figure 1, attached to this letter provides a visual summary of the locations of the Clark Springs wells, the Landsburg Mine Site and the coal seam in question, and the potential waste disposal site observed during our site visit. In implementing Wellhead Protection Plans, the utilities are required to inform the state and local governmental agencies regarding potential sources of contamination and implementation of appropriate controls and corrective actions. dd

The Landsburg mine site is particularly significant in this regard because it lies well within the 1 year capture zone (CZ) for the Clark Springs wells. This in turn implies that if significant contamination was found to discharge at some future date into the shallow aquifer supplying the wells, response time will be extremely short. More discussion follows on this subject under the topics of monitoring and contingency planning.

Regarding the requirements for capping of the site, it is stated in Table 4-2, that the MFS (under WAC 173-304) represents the primary capping criteria to be considered in this FS. We believe that the guidance for closure of hazardous waste landfills is a more appropriate set of criteria to apply, and is more consistent with the intent of MTCA. This site is not a municipal sanitary landfill. The problem here is clearly a hazardous waste issue with, according to the RI/FS, materials being left on site which could designate as DW or EHW under state or federal regulations.

As a result it is more appropriate to utilize the federal guidance for closure of landfills under RCRA (implemented in WAC 173-303) and discussed in "Requirements for Hazardous Waste Landfill Design, Construction and Closure", (EPA /625/4-89/022). This standard includes a combination cap with both an FML and minimum of 2 feet of soil with a saturated hydraulic conductivity of less than or equal to $1x10^{-7}$. If a combination cap of this type is not technically feasible, we believe at least the lower permeability requirement should be retained for the cap. ee

In this situation, there is no other proactive corrective action proposed, and clearly eliminating or reducing the leaching potential to the maximum extent possible can most easily be obtained through effective capping. In situations where no leachate collection capability exists, emphasis on the capping element is extremely important; we therefore believe that every reasonable effort should be made to comply with this standard. ff

The cap maintenance and monitoring period for post closure is stated as 20 years. This is not a routine site closure, and monitoring should be continued for a minimum of 30 years and terminated only after assurance that there is no further need. gg

Feasibility analysis.

Consistent with the comments above, an additional low permeability capping option should be evaluated in the context of the final feasibility determination. This should be the lower soil permeability standard referenced above of a minimum of 2 feet of $1x10^{-7}$ permeability soil. It is noted that the option of an FML cap is retained as a contingency. This is done based on the potential cost differential in a situation where a satisfactory source of low permeability capping material is not available at low cost. In the final decision making process, the following caps should be retained for comparison: low permeability soil at $1x10^{-6}$, low permeability soil at $1x10^{-7}$, FML, and RCRA composite cap. hh

In addition to its function of reducing potential leaching of contaminants, the cap serves the important function of reducing the driving force potentially causing contaminants to migrate within the coal seam. The extent of the cap should be expanded to encompass the entire length of the trench, based on the uncertainties of the groundwater flow system, the unknown location of the groundwater flow divide and its impact on that system. ii

In the comparison of caps in the evaluation of alternatives, all the capping options are given the same rating of 2, under the reduction, mobility and volume scoring category. As the only proactive action being recommended is capping, we would recommend that a greater distinction is appropriate between alternatives. For instance it does not seem reasonable to consider a soil cap providing between 54% and 62% infiltration reduction (based on the estimated infiltration HELP analysis comparison presented in Table 9-1) equally protective in this category as an FML/GCL cap providing over 99% infiltration reduction. As stated above the cap should extend the entire length of the subsidence trench. jj

With respect to the application of cost factors to the final selection step, we believe that an incremental comparison of the type presented would be more meaningful if it was incremental from a common point of reference. In the analysis presented, relatively small differences in overall rankings and costs result in relatively large percentage distinctions. This issue is especially important in evaluating what may be "substantial and disproportionate" costs of remediation under MTCA. kk

Although there is no formal guidance under MTCA or resulting policy on this issue, the WDOE has recognized a number of potential approaches to this question (WDOE Memo September 9th, 1993). Included in this memo are 5 alternative approaches none of which are quite the same as the approach taken here. We believe that application of these methodologies would produce a result more reflective of the intent of MTCA. The approach taken here results in a selected alternative indicative of the perceived most cost effective solution (Page 9-7). It does not seem possible to make the most effective distinction between alternatives using this approach, when relatively small incremental costs exist (relative to the range for all alternatives) for alternatives that are not separated based their level of protectiveness.

The monitoring period for post closure is stated as 20 years. This is not a routine site closure and monitoring should be continued for a minimum of 30 years and terminated only after assurance that there is no further need. If reasonable certainty regarding groundwater flow regimes and contaminant fate and transport cannot be achieved by expanded monitoring and analysis, then indefinite cap maintenance and monitoring will be required. ll

We recommend monitoring include, at a minimum, monthly sampling of the south portal surface discharge and quarterly sampling of monitoring wells LMW-3 and LMW-5. Analyses should include all compounds of concern. The portal discharge should be channeled and fenced for consistency of sampling conditions and security. Measurements of flow or water level should be recorded at each sampling. mm

Although the City is more concerned with potential discharge of contaminants to the south, uncertainty with respect to flow regimes and contaminant migration also exists at the north portal and at intermediate locations. Due to its proximity to the Clark Springs wells, the south portal area is of particular concern to the City of Kent. Knowledge of dissolved contaminant concentrations and vertical gradients between the fourth level sump and the water table would provide much more confidence in the City of Kent's well security and/or early warning of contaminant breakthrough.

Additional monitoring that might allow better characterization would include, at a minimum, three monitoring wells at the fourth level sump location and screened at the water table, at the fourth level, and at an intermediate depth. In addition, a monitoring well located about 300 feet north of the LMW-3/5 pair would provide better assurance of intercepting the potential contaminant flow path at the south end. The current wells are outside of, or at the extreme blind end of the old mine workings. The additional monitoring wells could be drilled as angle holes to avoid taking drilling equipment into the subsidence trench. The above additional monitoring wells would provide important information on the degree of risk and potential timing of impacts to the Clark Springs wells. Without such information, maintenance and monitoring of the site should be assumed for practical purposes, to be required in perpetuity. nn

Without a more detailed knowledge of the groundwater flow system and contaminant transport, additional contingency planning is also appropriate, specifically, to pre-design a ground water extraction and treatment system to be implemented upon any significant detection of contaminants in the south portal area. This system should be capable of intercepting and treating the total flow from the south portal. Particular treatment technologies could be selected when specific chemical oo contaminants are identified. Contingency planning for alternative water supply should also be performed in the event breakthrough of contaminants occurs at some point in the future.

After discussion with Golder staff on site we believe that many of our concerns may be anticipated as being addressed in the final remedy selection and CAP process. However, the issues addressed above are not in our opinion adequately addressed in the RI/FS and must ultimately be addressed formally. Responses should be implemented through an appropriate administrative vehicle in order to provide assurances acceptable to the City of Kent. We are anticipating that this will occur either in development of a final RI/FS or in the CAP process. pp

Summary.

Based on our review of the RI/FS and the resulting comments above, the City of Kent's primary comments can be summarized as follows:

1. Based on the RI/FS, there are a number of major uncertainties and unknowns at the site. In our opinion these include: the nature and extent of the wastes deposited and remaining on site, the nature of the groundwater flow system and related contaminant transport, and the risk of future releases. qq

2. The ground water flow regime within the collapsed mine workings, is essentially unknown and is likely considerably more complex than portrayed. We believe there is a substantial possibility that contaminated ground water may yet emerge at the portals or elsewhere. The possibility of contaminants eventually discharging from the Landsburg Mine is substantial and has not been fully addressed or quantified by the RI/FS. rr

3. Based on the information presented in the RI/FS (section 6.6.2, page 6-17), we disagree the statement that "the primary pathway for chemicals potentially exiting the mine is to the north". ss

4. We strongly disagree with the statement that "Future ground water monitoring activities should therefore focus on detecting potential releases at the northern end." We believe the information gathered to date, and presented in the RI/FS does not support this conclusion and recommendation. In our opinion, more extensive monitoring attention should be focused on the south end of the mine. The period of monitoring should be a minimum of 30 years, and not discontinued until an adequate understanding of the flow system and its behavior exists. There is a possibility that monitoring will be necessary in perpetuity. tt

5. Monitoring results are of great interest to the city, and should be routinely provided on a monthly basis, unless otherwise mutually agreed to in the future. uu

6. The potential waste discharge site identified on Figure 1, should also be evaluated in the context of this remediation effort. vv

7. A more conservative cap should be considered as consistent with the more appropriately used hazardous waste site capping and closure requirements for hazardous waste facilities under RCRA. The extent of the cap should be expanded to include the entire length of the trench unless a better understanding of the groundwater flow system and flow divide can be established. ww

8. Wellhead Protection requirements under state and federal requirements should be addressed as an ARAR for this site. xx

9. Greater emphasis is necessary in the area of contingency planning, specifically addressing the potential need for alternative water supply, water source treatment at the Clark Springs facility, and groundwater pump and treat mechanisms to provide hydraulic control of trench discharge. yy

10. The final resolution of the concerns addressed in this letter should be implemented through specific language in a revised RI/FS, the CAP, or inclusion in the Consent Decree (or other administrative vehicle utilized) for the site. zz

If the City of Kent receives acceptable responses to the comments and concerns expressed above, we could concur with the overall approach for the Landsburg site, of controlling leachate and contaminant discharges to the maximum reasonable extent through capping, continued intensive monitoring, and effective contingency planning, as generally appropriate. The final solution must contain assurance to the City of Kent that its water supply will be adequately protected from this source of contamination. This in turn requires that the PLP's have a demonstrated capability to implement whatever actions result as potentially required under the contingency planning discussed above. aaa

As you can see from the discussion above, the City of Kent is very concerned that any potential for contamination of the springs be fully and adequately addressed through this process. These comments were prepared with assistance from John Littler of Littler Environmental Consulting, Inc. and Mark Shaffer of Associated Earth Sciences, Inc. On April 16th we had the opportunity to visit the site with Bob Pancost and Rob Long of Golder, representing the PLPs. This visit was arranged on very short notice, was very helpful to us in developing our comments and very much appreciated. We would very much like to meet with you in the near future to discuss any questions you have with respect to our comments and your response. bbb

Very Truly Yours,

Don E. Wickstrom, P.E.
Director of Public Works

Enclosure
cc: Jim White, Mayor
Brent McFall, Chief of Staff
Members of Kent City Council

landsb.jl